**Left Hemisphere:** right hand, writing, language, science skills, math, lists, logic, linear thinking mode

**Right Hemisphere:** emotions, spatial awareness, music, creativity, imagination, dimension, gestalt (whole picture), holistic

**Commissure:** A set of axons that connects the hemispheres: corpus callosum, anterior commissure, hippocampal commissure.

**Lateralization:** Division of labor between the 2 hemispheres.

**Visual Field:** What is visible at any moment

**Left & right visual fields:** each processed in contralateral hemisphere

**Optic Chiasm:** Where crossover of info occurs. The axons that cross the opposite hemisphere are those from the nasal (inside) half of each retina.

**Auditory connections:** Each hemisphere gets info, but contralateral hemisphere pays more attention

**Epilepsy:** condition involving excessive, synchronized neural activity

**Seizure:** Behavioral symptom; mild to severe

**Focus:** Point in brain where seizure begins

**Commissurotomy:** Severing of the corpus callosum

Split-brain patient: Has undergone a Commissurotomy

**Planum temporale:** critical for speech comprehension. Larger in left temporal lobe of 65% of people. Maturation of the corpus callosum occurs gradually over time. Young children have difficulty coordinating limbs.

**Plasticity After Brain Damage:**

**Brain damage:** tumors, infections, toxic substances, degenerative diseases, closed head injuries, stroke

**Stroke:** temp loss of blood flow in brain. Common cause of brain damage in the elderly.

**Types of strokes:** Ischemia (most common), Hemorrhage (less frequent). They can both cause Edema: The accumulation of fluid in the brain. This increases pressure in the brain, the probability of further strokes, and kills neurons.

**Tissue plasminogen activator (tPA):** Breaks up blood clots & reduces effects of ischemic strokes.

**Cooling brain:** less activity, lower energy needs, less risk of overstimulation.

**Cannabinoids:** minimize cells loss after brain damage by decreasing the release of glutamate. Excessive glutamate can cause over-excitation of neurons.

**Diaschisis:** Decreased activity of surviving neurons after damage to other neurons. Damaged axons grow back under certain circumstances. PNS axon grows back at a rate of 1 mm per day. Impaired performance of neurons because neurons that used to provide them with input have been damaged.

**Collateral sprouts:** New branches formed by other non-damaged axons that attach to vacant receptors

**Denervation super-sensitivity:** Heightened sensitivity to a neurotransmitter after the destruction of an incoming axon and usually result of increased receptors. Takes place in the dendrites.

**Phantom limb:** continuation of sensation of an amputated body part & reflects this process. The cortex reorganizes itself after the amputation of a body part by becoming responsive to other parts of the body. Can lead to the feeling of sensations in the